

Santa Clara

City of Santa Clara, California

**DATE:** November 28, 2007**TO:** City Manager for Council Action**FROM:** Director of Planning and Inspection**SUBJECT:** Proposal by Santa Clara County Cities Association for a Near-Term Policy on Green Building Strategy**EXECUTIVE SUMMARY:**

One element of the Council's *2007-09 Principles and Priorities* is to "Affirm Commitment to Reduction of greenhouse gases and development of Sustainable Renewable Energy & Green Power Resources." As a part of this positive environmental posture, the Council has indicated it would like to establish a policy specifically addressing green building efforts. Climate protection and sustainability are key initiatives in the City's General Plan Update process, wherein policies and programs addressing the breadth of "green" actions will be incorporated. However, since the adoption of the new General Plan policies is not anticipated until June 2009 or so, an interim policy that advances green building objectives is appropriate.

The Santa Clara County Cities Association (Cities Association) established a Green Building Policy Collaborative (GBC) that has worked toward setting a common goal across the member cities to "adopt policy that is easy to navigate across jurisdictions and move every city to the path of reducing environmental impacts through green building policy." Mayor Mahan is currently chair of the Cities Association and Council member McLeod was the City's representative on the GBC.

The GBC recommended three key elements of a policy, and on November 8, 2007, the Cities Association adopted these Near-Term Building Policy Recommendations:

1. Recognize/Adopt LEED & GreenPoint Rated

Local governments should formally recognize and adopt the U.S. Green Buildings Council's LEED® Rating system¹ and Build It Green's GreenPoint Rated² system (residential) as the official green buildings standards for their jurisdictions.

2. Complete Green Checklist as a part of Planning Application

As a part of a planning application, require the submittal of a completed LEED or GreenPoint Rated checklist. This recommendation does not require the applicant to adopt green building practices but requires a completed checklist for the project.

3. Require Public Buildings to be LEED Silver

Local governments should adopt a policy for achieving LEED Silver certified or better for all public new construction and renovation projects over 5,000 square feet.

One benefit of a common policy across jurisdictions in the area is that it sends a message to the development community that they can expect some consistency from site to site, which will more likely facilitate collaboration. As presented, the first two items set a standard for public education and a voluntary commitment to green building. There is no requirement that private development meet LEED standards at this time. However, under this proposal the City would be required to meet green standards for certain municipal facilities. To date, the City has approved or has under review several private green building projects, each being voluntary compliance, with more under preliminary discussion.

City staff from the Building and Planning Divisions and Silicon Valley Power have also been internally researching various green policies for some time. The Cities Association approach is seen to have high value

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compared to other initiatives as it has a strong emphasis on collaboration and consistency at the local level. It is becoming more common that owners, developers and architects are seeing real immediate and long-term value in building green, particularly as costs for green systems and materials begin to drop compared to conventional methods. While there may still be some substantial costs involved in applying these methods and materials and in the rating/review service associated with certification, the voluntary approach promoted by the Sister Cities Association will help to "normalize" green building production over time.

Copies of Website excerpts of the LEED Rating system and a sample green rating guidelines and checklist, as noted in the policy are provided in the Council offices and in the City's Permit Center for public review. The full scope of Build It Green materials can also be found online at:
<http://www.builditgreen.org/greenpoint-rated/guidelines>.

ADVANTAGES AND DISADVANTAGES OF ISSUE:

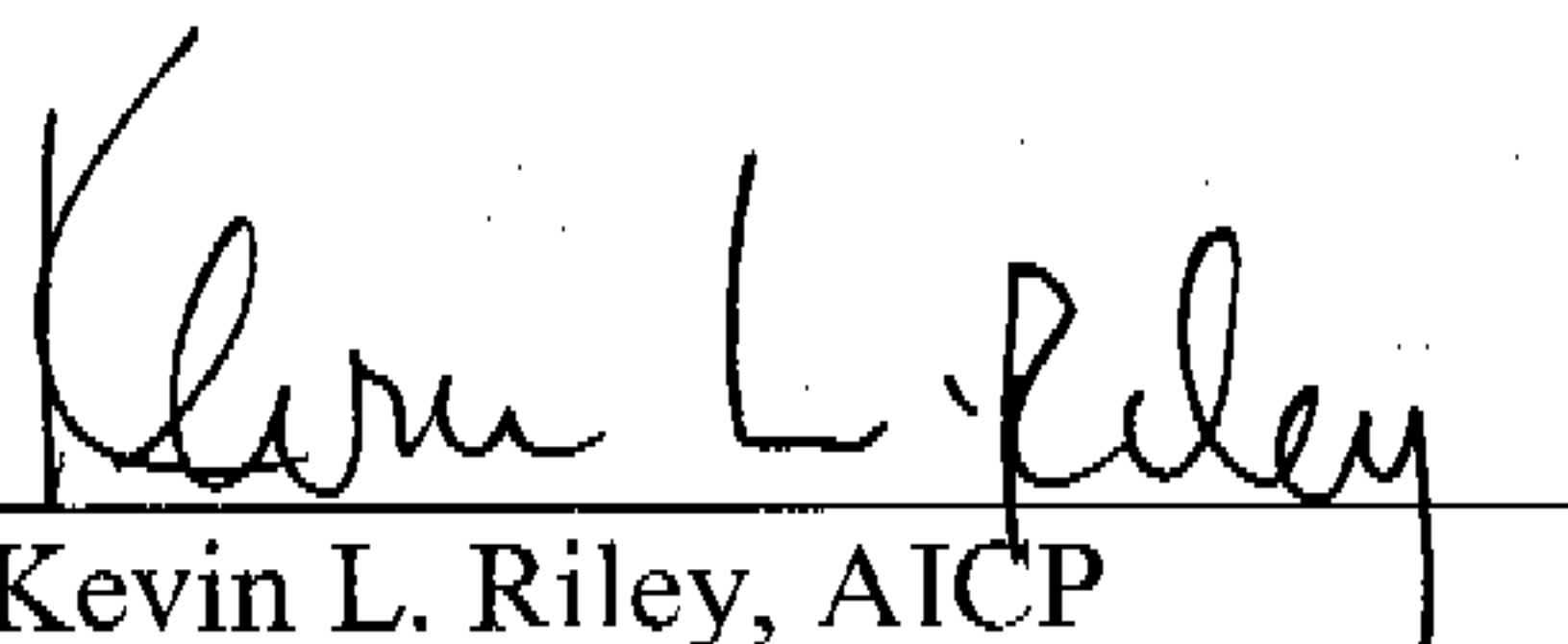
Adoption of the Green Policies is consistent with a top priority of the City Council. Establishing a City standard for green building to provide to project developers will promote growth in the volume and scope of green projects in the City. Encouraging selective or comprehensive application of green building methodologies will demonstrate the City's commitment to climate protection and sustainability practices, but at the same time minimize cost factors for many proponents during this time of development of standards coming out of many competing national initiatives. By the time of the City's 2009 adoption of the *General Plan 2010-25*, it is anticipated that more rigorous but effective programs and requirements will be on the table for adoption.

ECONOMIC/FISCAL IMPACT:

Some minor staff costs are anticipated in providing materials to applicants and in reviewing green building concepts with applicants.


RECOMMENDATION:

That the Council adopt the three Near-Term Green Building Policy Recommendations promoted by the Santa Clara County Cities Association, including 1) Recognize/adopt U.S. Green Buildings Council's LEED Rating system and Build It Green's GreenPoint Rated system (residential); 2) Complete green checklist for planning applications; and 3) LEED Silver certification for new City projects over 5,000 square feet, and direct the City Manager to implement these as the City Green Building Policy Program.


Kevin L. Riley, AICP

Director of Planning and Inspection

APPROVED:


Jennifer Sparacino
City Manager

Documents Related to this Report:

- 1) *Green Building Collaborative Recommendations*
- 2) *LEED Rating System Web materials (Council Offices)*
- 3) *Build It Green Web page and Checklist for Home Remodeling (Council Offices)*

Santa Clara County Cities Association
Green Building Collaborative
Overview, November 2007

The Green Building Collaborative, (GBC), originated from the June Joint Policy Committee meeting. At that meeting, the Committee learned about several climate change initiatives, including the Silicon Valley Leadership Group's efforts on green building policy. Per the direction at that meeting, the Green Building Policy Collaborative was formed to maximize efficiency in adopting green building policy, adopt policy that is easy to navigate across jurisdictions and move every city to the path of reducing environmental impacts through green building policy. Members of the GBC include:

Lisa Geifer, Cupertino Planning Commission
Amy French, Palo Alto Planner
Shiloh Ballard, Silicon Valley Leadership Group
Don Bray, Silicon Valley Leadership Group
Yoriko Kishimoto, Palo Alto Mayor
Ann Waltonsmith, Saratoga Vice Mayor
Otto Lee, Sunnyvale Mayor
Jackie Young-Lind, Campbell Community Development
Michael Foster, San Jose Green Building Program
Barry Hooper, San Jose Green Building Program
Linda LeZotte, Former San Jose Councilmember
Jamie McLcod, Santa Clara City Council
Joanne Benjamin, Santa Clara County Cities Association
Sharon Refvem, US Green Building Council, Northern California
Scott Green, Office of Councilmember Judy Chirco

Since the June JPC meeting, the Green Building Collaborative has met five times to learn, discuss and develop goals and immediate action steps for each city. The results of those meetings go before the Cities Association for adoption on November 8th, 2007.

Many cities are well-beyond the recommendations being presented. However, it is the Collaborative's hope that its work will facilitate the adoption of green building policy and help move Santa Clara County and the region towards meeting greenhouse gas reduction targets.

Santa Clara County Cities Association
Green Building Collaborative
Mission/Goals

Buildings in the United States account for 36% of total energy use, 30% of greenhouse gas emissions, 30% of raw materials use and 30% of waste output¹. These figures translate into environmental costs and bottom line business costs. These costs are borne by all including homeowners, renters, governmental agencies, small business owners and large companies. Current environmental concerns – including global warming, water shortages and the consequences of high energy demand – has created a sense of urgency around this issue.

Mission

Tackle the high environmental and business costs of unsustainable development through a collaborative effort of identifying, promoting and implementing sustainable technologies, materials, and business practices.

Goals

- 1) Reduce the built environment's impact on the natural environment through more efficient use of energy, water, land and sustainable construction materials/practices.
- 2) Encourage regional collaboration to adopt consistent sustainable development "green building" policies and standards that facilitate positive results for the environment, community health, and economic vitality.
- 3) Support and promote the economic development and best practices of green building products and services, especially of locally-based businesses.
- 4) Actively encourage the private, public and nonprofit sectors to more rapidly adopt sustainable development practices with the intent to encourage economic development.

Deliverables

- 1) Develop Green Building Coalition by July 2007,
- 2) Develop recommended policy and set of low/no cost practices by October 2007,
- 3) Present recommended policy and practices to SCCCA by November 2007

Phase I

Initiate locally (Jul.-Dec. 2007)

- 1) Form small Coalition;
- 2) Exchange information (incl. building standards) and sample policies;
- 3) Develop preliminary policy and low/no cost practices;
- 4) Present preliminary policy & practices to SCCCA for proposed adoption.
- 5) Advocate adoption of low/no cost policy recommendations
- 6) Develop education and role-out plan and implementation

Phase II

Expand locally, initiate regionally (2008+)

- 1) Present preliminary policy & practices for proposed adoption regionally;
- 2) Expand Coalition to greater pool of stakeholders locally;
- 3) Exchange information and sample secondary policies, practices and ordinances;
- 4) Present secondary set of proposed policies, practices & ordinances locally and regionally;
- 5) Advocate adoption of secondary set of policy recommendations

¹ U.S. Green Building Council

Near-Term Green Building Policy Recommendations

Santa Clara County Cities Association Green Building Collaborative

November 2007

Many cities are taking the lead on climate protection and global warming initiatives. Below are three near-term policy recommendations as suggested by the Cities Association Green Building Collaborative to advance our collective goals around environmental sustainability. These are intended to be a first step—actions that local governments could pursue immediately. The intent is to provide easy first steps while discussions about more comprehensive policies are underway. The idea is to not wait until those discussions are finalized but to act now on policy recommendations that can and should be pursued and adopted quickly.

1) Recognize/Adopt LEED & GreenPoint Rated

Local governments should formally recognize and adopt the U.S. Green Building Council's LEED[®] Rating system¹ and Build It Green's GreenPoint Rated² system (residential) as the official green building standards for their jurisdictions.

Rationale: The adoption of the same sets of standards will create green building programs that are easier to understand and more consistent across jurisdictions. These two sets of standards have been selected because they are:

- Nationally recognized & familiar to a large and growing number of design and building professionals
- Consensus based & easy to use
- Consist of a set of realistic yet robust standards
- Target quantifiable achievements, based on recognized standards with clear performance benchmarks
- Incorporate independent, third party verification

2) Complete Green Checklist as a part of Planning Application

As a part of a planning application, require the submittal of a completed LEED or GreenPoint Rated checklist. This recommendation does not require the applicant to adopt green building practices but requires a completed checklist for the project.

Rationale: Many policy proposals suggest setting a green threshold. However, in the absence of good information about current green building practices, determining that threshold can be difficult. Requiring the submittal of a checklist without asking for any change in the project is a first step that serves to:

- Educate the private sector about green building and
- Benchmark conventional building practices in order to inform policy-making at a later date

3) Require Public Buildings to be LEED Silver

Local governments should adopt a policy for achieving LEED Silver certification or better for all public new construction and renovation projects over 5,000 square feet.

Rationale: In order to ready the private sector and develop the green building industry, government should help by leading the way. Government adoption of green building practices will further spur the green building market, including the development of professional expertise, products, and ultimately serve to bring down costs.

¹ LEED stands for "Leadership in Energy and Environmental Design". See www.usgbc.org/LEED for further information on the LEED rating system and its variations.

² Information on the Green PointsRated residential green building rating system can be found at: www.builditgreen.org/greenpointrated

In addition to the environmental and public health benefits, green building is a financially responsible path for local governments to follow. Independent studies show that green building costs are the same or slightly higher to those of standard buildings. Increased costs are often dependent upon how and when the decision to build green is built into the process.

The average premium for green buildings is slightly less than 2%, or \$3-5/ft². That 2% increase can result in a life cycle savings of 20% of total construction costs. For example, an initial upfront investment of up to \$100,000 to incorporate green building features into a \$5 million project would result in a savings of \$1 million in today's dollars over the life of the building³.

³ Davis Langdon Report and State of California Report
<http://www.davislangdon.com/upload/images/publications/USA/2004%20Costing%20Green%20Comprehensive%20Cost%20Database.pdf> and <http://www.usgbc.org/Docs/News/News477.pdf>

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LEED Rating System

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction and operation of high-performance green buildings. LEED provides building owners and operators with the tools they need to have an immediate and measureable impact on their buildings' performance.

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\$0.68 each
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Project Certification

LEED certification provides independent, third-party verification that a building project is environmentally responsible, profitable and a healthy place to live and work.

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Professional Accreditation

LEED Accredited Professionals are professionals who have demonstrated a thorough understanding of green building practices and principles and familiarity with LEED requirements, resources and processes.

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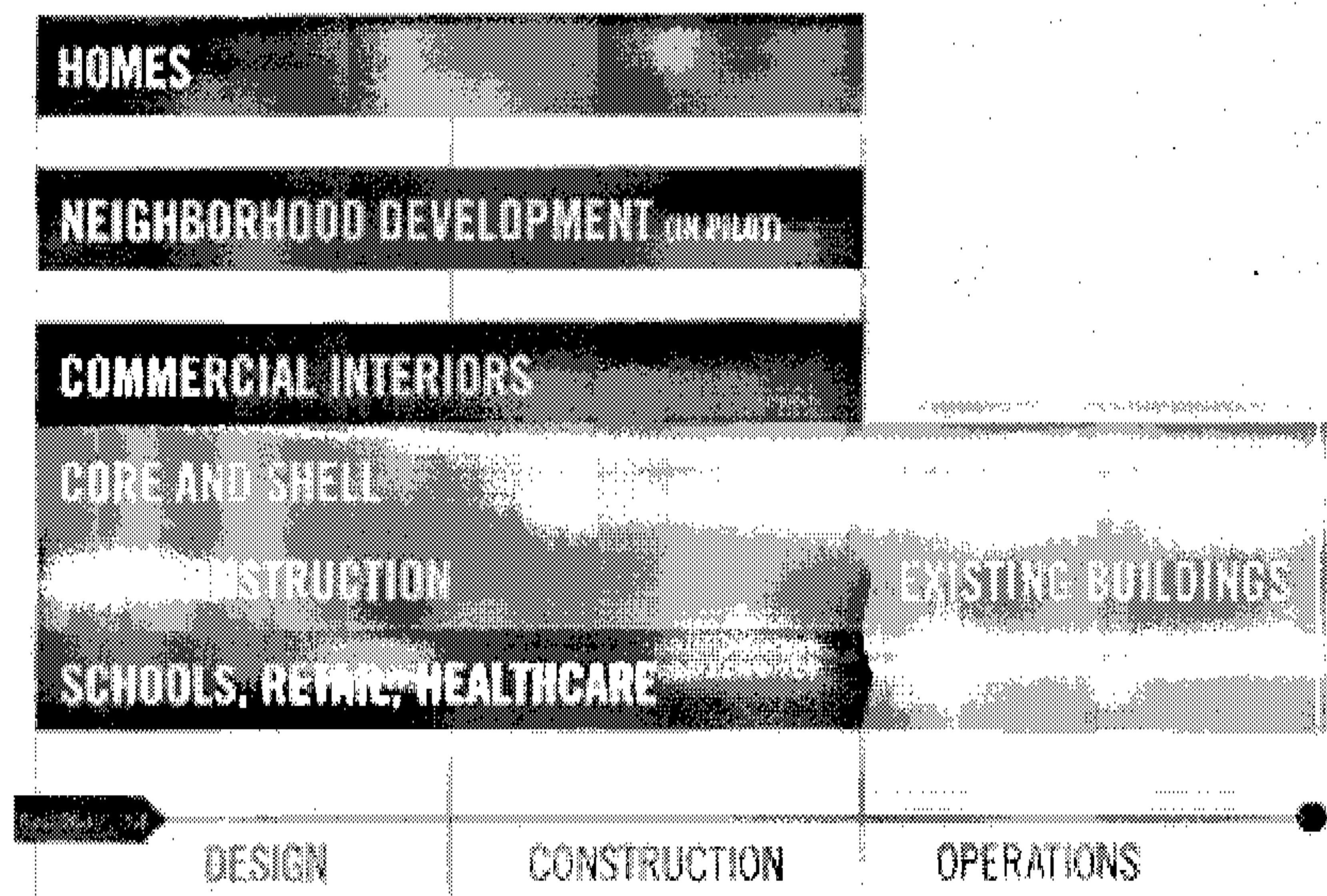
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Home LEED LEED Rating Systems

LEED Rating Systems

What is LEED®?

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria.



LEED is the nationally accepted benchmark for the design, construction and operation of high performance green buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

Who Uses LEED?

Architects, real estate professionals, facility managers, engineers, interior designers, landscape architects, construction managers, lenders and government officials all use LEED to help transform the built environment to sustainability. State and local governments across the country are

LEED Rating Systems

New Construction

LEED for New Construction and distinguish high-performan

Existing Buildings

LEED for Existing Buildings: Op benchmark for building owners improvements and maintenanc

Commercial Interiors

LEED for Commercial Interiors improvement market that gives tenants and designers.

Core & Shell

LEED for Core & Shell aids des building owners in implementin shell construction.

Schools

LEED for Schools recognizes th construction of K-12 schools an spaces.

Retail

LEED for Retail recognizes the construction projects and addre

Healthcare

LEED for Healthcare promotes construction for high-performan

Homes

LEED for Homes promotes the performance green homes.

Neighborhood Developm

LEED for Neighborhood Develo growth, urbanism and green bu

adopting LEED for public-owned and public-funded buildings; there are LEED initiatives in federal agencies, including the Departments of Defense, Agriculture, Energy, and State; and LEED projects are in progress in 41 different countries, including Canada, Brazil, Mexico and India.

neighborhood design.

LEED Rating System Dra
Review and comment on propo
Rating Systems.

How is LEED Developed?

LEED Rating Systems are developed through an open, consensus-based process led by LEED committees. Each volunteer committee is composed of a diverse group of practitioners and experts representing a cross-section of the building and construction industry. The key elements of USGBC's consensus process include a balanced and transparent committee structure, technical advisory groups that ensure scientific consistency and rigor, opportunities for stakeholder comment and review, member ballot of new rating systems, and a fair and open appeals process.

[About USGBC](#) | [Policies & Guidelines](#) | [Frequently Asked Questions](#) | [Contact](#)

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Build It Green
Smart Solutions from the Ground Up

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GREEN BUILDING RATER'S

COLLABORATION & NETWORKING

TOOLS & SOURCES

TRAINING

EVENTS

GreenPoint Rated

Overview

Getting Started

Guidelines & Checklists

Guidelines Development

Public Comment for Guidelines

Find a Certified GreenPoint Rater

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GreenPoint Rater Council

Comments & Questions

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Guidelines & Checklists

Download Build It Green's current and archived Green Building Guidelines, checklists, and calculators here.

--> [Learn about the development of the Guidelines](#)

--> [To get involved in ongoing guidelines revisions, see Public Comment for Guidelines](#)

Current Guidelines

Home Remodeling

- [2007 Home Remodeling Green Building Guidelines \(.pdf\)](#)
- [2007 Home Remodeling Green Building Checklist \(.xls\)](#)

New Homes

- [2007 New Home Construction Green Building Guidelines \(.pdf\)](#)
- [2007 New Home GreenPoints Calculator \(.xls\)](#)
- [2007 New Home Community & Innovations Checklist \(.xls\)](#)

Multifamily

- [Multifamily Green Building Guidelines \(.pdf\)](#)
- [Multifamily GreenPoints Calculator \(.xls\)](#)

Archived Guidelines

- [2004 Home Remodeling Green Building Guidelines \(.pdf\)](#)
- [2005 New Home Construction Green Building Guidelines \(.pdf\)](#)
- [2005 New Home GreenPoints Calculator \(.xls\)](#)
- [2005 New Home Guidelines References \(.pdf\)](#)

2007 Home Remodeling GreenPoints Checklist



Build It Green
Smart Solutions From The Ground Up

The green building practices listed below are described in the Home Remodeling Green Building Guidelines, available at www.BuildItGreen.com

Community	Energy	IAQ/ Health	Resources	Water
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A. SITE

1. Protect Existing Soil and Minimize Disruption of Existing Plants & Trees

- a. Protect Existing Topsoil from Erosion and Reuse after Construction
- b. Limit and Delineate Construction Footprint for Maximum Protection

2. Deconstruct Instead of Demolish

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3. Recycle Construction and Demolition Waste

- a. Recycle or Reuse All Cardboard, Asphalt & Concrete (Required)
- b. Recycle 50% of Remaining C&D Waste

B. FOUNDATION

1. Replace Portland Cement in Concrete with Recycled Flyash or Slag

- a. Minimum 30% Flyash or Slag
- b. Minimum 40% Flyash or Slag

2. Retrofit Crawl Space to Control Moisture

- a. Control Ground Moisture with Vapor Barrier
- b. Condition the Crawl Space

3. Design & Build Structural Pest Controls

- a. Install Termite Shields and Separate All Exterior Wood-to-Concrete Connections by Metal or Plastic Fasteners/Dividers
- b. All New Plants Have Trunk, Base, or Stem Located At Least 36 Inches from Foundation

C. LANDSCAPE

1. Construct Resource-Efficient Landscapes

- a. No Invasive Species Listed by Cal-IPC Are Planted
- b. No Plant Species Will Require Shearing
- c. 75% of Plants Are Drought-tolerant California Natives, Mediterranean, or Other Appropriate Species

2. Use Fire-Safe Landscaping Techniques

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3. Minimize Turf Areas

- a. All Turf Will Have a Water Requirement Less than or Equal to Tall Fescue
- b. Turf Shall Not Be Installed on Slopes Exceeding 10% or in Areas Less than 8 Feet Wide
- c. Turf is <33% of Landscaped Area
- d. Turf is <10% of Landscaped Area

4. Plant Shade Trees

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5. Group Plants by Water Needs (Hydrozoning)

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6. Install High-Efficiency Irrigation Systems

- a. System Uses Only Drip, Bubblers, or Low-flow Sprinklers
- b. System Has Smart Controllers

7. Incorporate Two Inches of Compost into the Top 6 to 12 Inches of Soil

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8. Mulch All Planting Beds to the Greater of 2 Inches or Local Water Ordinance Requirement

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9. Use 50% Salvaged or Recycled-Content Materials for 50% of Non-Plant Landscape Elements

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10. Reduce Light Pollution by Shielding Fixtures and/or Directing Light Downward

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11. Collect and Retain Rainwater for Irrigation

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The green building practices listed below are described in the Home Remodeling Green Building Guidelines, available at www.BuildItGreen.com

Community	Energy	IAQ/ Health	Resources	Water
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D. STRUCTURAL FRAME & BUILDING ENVELOPE

1. Apply Optimal Value Engineering

- a. Place Rafters and Studs at 24-Inch On Center Framing
- b. Size Door and Window Headers for Load
- c. Use Only Jack and Cripple Studs Required for Load

2. Use Engineered Lumber

- a. Beams and Headers
- b. Insulated Engineered Headers
- c. Wood I-Joists or Web Trusses for Floors
- d. Wood I-Joists for Roof Rafters
- e. Engineered or Finger-Jointed Studs for Vertical Applications
- f. Oriented Strand Board for Subfloor
- g. Oriented Strand Board Wall and Roof Sheathing

3. Use FSC Certified Wood

- a. Dimensional Lumber and Timbers: Minimum 40%
- b. Dimensional Lumber and Timbers: Minimum 70%
- c. Panel Products: Minimum 40%
- d. Panel Products: Minimum 70%

4. Use Solid Wall Systems (includes SIPs, ICFs, & any Non-Stick Frame Assembly)

- a. Floors
- b. Walls
- c. Roofs

5. Reduce Pollution Entering the Home from the Garage

- a. Tightly Seal the Air Barrier between Garage and Living Area
- b. Install Garage Exhaust Fan OR Build a Detached Garage

6. Design Energy Heels on Roof Trusses

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7. Install Overhangs and Gutters

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8. Install Reflective Roof and Radiant Barrier

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9. Replace Single-Pane Windows with High Performance Windows (U-factor ≤ 0.40 & SHGC ≤ 0.40)

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10. Retrofit with Storm Windows

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11. Install Low-SHGC Window Film on Single-Pane Windows

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12. Retrofit Structure for Earthquakes

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E. EXTERIOR FINISH

1. Use Recycled-Content (No Virgin Plastic) or FSC-Certified Decking

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2. Install Rain Screen Wall System

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3. Use Durable and Noncombustible Siding Materials

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4. Use Durable and Noncombustible Roofing Materials

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F. INSULATION

1. Install Insulation with 75% Recycled Content

- a. Walls and/or Floors
- b. Ceilings

2. Install Insulation that is Low-Emitting (Certified Section 01350)

- a. Walls and Floors

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The green building practices listed below are described in the Home Remodeling Green Building Guidelines, available at www.BuildItGreen.com						Community	Energy	IAQ/ Health	Resources	Water
b. Ceilings										
3. Upgrade Insulation To Exceed Current Title 24 Standards										
a. Attics and Roofs										
b. Walls										
c. Floors										
4. Inspect Quality of Insulation Installation before Applying Drywall										
5. Apply Caulking & Weatherstripping										
G. PLUMBING										
1. Distribute Domestic Hot Water Efficiently										
a. Insulate Hot Water Pipes from Water Heater to Kitchen										
b. Insulate All Hot Water Pipes										
c. Use Engineered Parallel Piping										
d. Use Engineered Parallel Piping with Demand Controlled Circulation Loop										
e. Use Structured Plumbing with Demand Controlled Circulation Loop										
f. Use Central Core Plumbing										
2. Replace Toilets with High-Efficiency Toilets (Dual-Flush or ≤ 1.3 gpf)										
3. Upgrade to High Efficiency Water Heater										
4. Install Water Efficient Fixtures										
a. Showerheads or Shower Towers Use < 2.0 Gallons Per Minute Total										
b. Faucets - Bathrooms <1.5 gpm										
c. Faucets - Kitchen & Utility < 2.0 gpm										
H. HEATING, VENTILATION & AIR CONDITIONING										
1. Design and Install HVAC System to ACCA Recommendations										
2. Install High Efficiency Sealed Combustion Units										
a. Furnaces and Boilers										
b. Heat Pumps										
3. Install Zoned, Hydronic Radiant Heating with Slab Edge Insulation										
4. Install High Efficiency Air Conditioning with Environmentally Responsible Refrigerants										
5. Design and Install Effective Ductwork										
a. Install New Ductwork Within Conditioned Space										
b. Use Duct Mastic on All Ducts and Joints Seams										
c. Install Ductwork under Attic Insulation (Buried Ducts)										
d. Pressure Balance the Ductwork System										
e. Protect Ducts During Remodeling & Clean All Ducts before Occupancy										
f. Insulate Existing Ductwork										
6. Install High Efficiency HVAC Filter (MERV 6+)										
7. Install gas fireplace with efficiency rating not less than 60% using CSA standard										
a. No fireplace										
b. Install gas fireplace with efficiency rating not less than 60% using CSA standard.										
c. Retrofit wood burning fireplaces with EPA-certified wood or pellet stove										
8. Install Effective Exhaust Systems in Bathrooms and Kitchens										
a. Install ENERGY STAR Bathroom Fans Vented to the Outside										
b. All Bathroom Fans are on Timer or Humidistat										

The green building practices listed below are described in the Home Remodeling Green Building Guidelines, available at www.BuildItGreen.com					
	Community	Energy	IAQ/ Health	Resources	Water
c. Install Kitchen Range Hood Vented to the Outside					
9. Install Mechanical Ventilation System for Cooling					
a. Install ENERGY STAR Ceiling Fans & Light Kits in Living Areas & Bedrooms					
b. Install Whole House Fan with Variable Speeds					
10. Install Mechanical Ventilation for Fresh Air					
a. Install Air-to-Air Heat Exchanger (Heat or Energy Recovery Ventilator)					
11. Install Carbon Monoxide Alarm(s)					
I. RENEWABLE ENERGY					
1. Install Solar Water Heating System					
2. Install Photovoltaic (PV) System that offsets electric energy use by:					
a. 30% of electric needs OR 1.2 kw					
b. 60% of electric needs OR 2.4 kw					
c. 90% of electric needs OR 3.6 kw					
J. BUILDING PERFORMANCE					
1. Whole House Inspection/Diagnostic Testing & Improvements Made					
a. Duct Testing and Improvements Made so that Leakage is < 15%					
b. Blower Door Testing and Improvements Made so that Air Change per hour is < 0.35					
c. House Passes Combustion Safety Backdraft Test					
K. FINISHES					
1. Design Entryways to Reduce Tracked in Contaminants					
2. Use Low/No-VOC Paint					
a. Low-VOC Interior Wall/Ceiling Paints (Flat <50 g/L VOC; Non-Flat <150 g/L VOC)					
b. Zero-VOC: Interior Wall/Ceiling Paints (<5 g/L VOC)					
3. Use Low VOC, Water-Based Wood Finishes (<250 g/L VOC)					
4. Use Low-VOC Caulks & Construction Adhesives (<70 g/L VOC for All Adhesives)					
5. Use Recycled-Content Paint					
6. Use Environmentally Preferable Materials for Interior Finish: A) FSC Certified Wood, B) Reclaimed Materials, C) Rapidly Renewable D) Recycled-Content or E) Finger-Jointed					
a. Cabinets (50% Minimum)					
b. Interior Trim (50% Minimum)					
c. Shelving (50% Minimum)					
d. Doors (50% Minimum)					
e. Countertops (50% Minimum)					
7. Reduce Formaldehyde in Interior Finish (CA Section 01350)					
a. Subfloor (50% Minimum)					
b. Cabinets (50% Minimum)					
c. Interior Trim (50% Minimum)					
d. Shelving(50% Minimum)					
8. After Installation of Finishes, Test of Indoor Air Shows Formaldehyde Level <27 ppb					
L. FLOORING					

The green building practices listed below are described in the Home Remodeling Green Building Guidelines, available at www.BuildItGreen.com	Community	Energy	IAQ/Health	Resources	Water
1. Use Environmentally Preferable Flooring: A) FSC-Certified Wood, B) Reclaimed or Refinished, C) Rapidly Renewable, D) Recycled-Content, E) Exposed Concrete. <i>Flooring Adhesives Must Have <50 g/L VOCs.</i>					
a. 15% of Floor Area					
b. 30% of Floor Area					
c. 50% of Floor Area					
d. 75% of Floor Area					
2. Use Thermal Mass Flooring					
3. Flooring Meets CA Section 01350 or CRI Green Label Plus Requirements (50% Minimum)					
M. APPLIANCES AND LIGHTING					
1. Install Water and Energy Efficient Dishwasher					
a. ENERGY STAR					
b. Dishwasher Uses No More Than 6.5 Gallons/Cycle					
2. Install Water- and Energy-Efficient Clothes Washing machine					
a. Meets CEE Tier 2 Requirements (Modifield Energy Factor 2.0, Water Factor 6.0)					
b. Meets CEE Tier 3 Requirements (Modifield Energy Factor 2.2, Water Factor 4.5)					
3. Install ENERGY STAR Refrigerator					
a. ENERGY STAR Qualified & < 25 Cubic Feet Capacity					
b. ENERGY STAR Qualified & < 20 Cubic Feet Capacity					
4. Install Built-In Recycling & Composting Center					
a. Built-In Recycling Center					
b. Built-In Composting Center					
5. Upgrade to Energy Efficient Lighting					
6. Install Low-Mercury Fluorescent Lighting					
a. Linear Tubes					
b. Compact Fluorescent Lamps					
7. Install Lighting Controls					
a. Interiors (Dimmers or Occupancy Sensors)					
b. Exteriors (Photocells or Motion Sensors)					
N. OTHER					
1. Incorporate Remodeling Checklist in Blueprints					
2. Develop Homeowner Manual of Green Features/Benefits					
3. Innovation: List innovative measures that meet the green building objectives of the Remodeling Guidelines.					
Innovation in Community : Enter description here					
Innovation in Energy : Enter description here					
Innovation in IAQ/Health : Enter description here					
Innovation in Resources : Enter description here					
Innovation in Water : Enter description here					